

49. (Amended) A method for manufacturing a semiconductor device comprising steps of:

E² providing a material for promoting crystallization to at least a part of a semiconductor film formed over a substrate;

subjecting said semiconductor film to plasma comprising oxygen and helium to form a gate insulating film on said semiconductor film; and

irradiating said semiconductor film after subjecting said semiconductor film to the plasma with one of an infrared ray and a laser light.

52. (Amended) A method for manufacturing a semiconductor device comprising steps of:

E³ providing a material for promoting crystallization to at least a part of a semiconductor film formed over a substrate;

subjecting said semiconductor film to oxygen plasma to form a gate insulating film on said semiconductor film;

crystallizing said semiconductor film after subjecting said semiconductor film to the oxygen plasma using said material, to obtain a crystalline semiconductor film;

patterning said crystalline semiconductor film and said gate insulating film;

forming a second gate insulating film so as to cover said crystalline semiconductor film and said gate insulating film after patterning them.

56. (Amended) A method for manufacturing a semiconductor device comprising steps of:

E⁴ providing a material for promoting crystallization to at least a part of a semiconductor film formed over a substrate;

subjecting said semiconductor film to oxygen plasma to form a gate insulating film on said semiconductor film;

irradiating said semiconductor film after subjecting said semiconductor film to the oxygen plasma with one of an infrared ray and a laser light; and

patterning said crystalline semiconductor film.

60. (Amended) A method for manufacturing a semiconductor device comprising steps of:

ES providing at least one metal element to at least a part of a semiconductor film formed over a substrate;

subjecting said semiconductor film to plasma to form a gate insulating film on said semiconductor film;

crystallizing said semiconductor film after subjecting said semiconductor film to the oxygen plasma to obtain a crystalline semiconductor film; and

patterning said crystalline semiconductor film.

64. (Amended) A method for manufacturing a semiconductor device comprising steps of:

E6 providing at least one metal element to at least a part of a semiconductor film formed over a substrate;

subjecting said semiconductor film to plasma to form a gate insulating film on said semiconductor film; and

irradiating said semiconductor film after subjecting said semiconductor film to the oxygen plasma with one of an infrared ray and a laser light.